

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1 - 26. (canceled)

27. (previously presented) An identification tag for application to objects comprising in combination:

an application specific integrated circuit die having;

a signal receiving system for receiving data containing information and programming into an integrated circuit,

a data processing system for reading out information from the integrated circuit,

a first dipole antenna for receiving radio wave energy;

a power storage means for storing the radio wave energy received by the first dipole antenna and for supplying energy to the integrated circuit, and

a second dipole antenna for transmitting information from the integrated circuit to a receiver.

28. (previously presented) An identification tag for application to objects comprising in combination:

an application specific integrated circuit on a die having;

a signal receiving system for receiving data containing information and programming into an integrated circuit,

a data processing system for reading out information from the integrated circuit,

a dipole antenna for receiving radio wave energy and transmitting information from the integrated circuit to a receiver not located on the die, and

a power storage means for storing the radio wave energy received by the dipole antenna and for supplying energy to the integrated circuit,

wherein all components are located on the die.

29 - 31. (canceled)

32. (previously presented) The identification tag of claim 31, wherein the dipole antenna for transmitting information is powered by a charge storage component or charge storage components which store energy.

33. (previously presented) The identification tag of claim 27, wherein energy is received from sources selected from the group consisting of microwaves, infrared, visible light and ultraviolet light.

34. (previously presented) The identification tag of claim 27, wherein a write control component contains at least one memory

section for storing information.

35. (previously presented) The identification tag of claim 34, wherein the memory section is a nonvolatile memory.

36. (previously presented) The identification tag of claim 27, wherein at least one multiplexer controls flow of information and data.

37. (previously presented) The identification tag of claim 27, wherein at least one pulse generating circuit is used.

38. (previously presented) The identification tag of claim 27, wherein information received is in analog form.

39. (previously presented) The identification tag of claim 27, wherein information received is in digital form.

40. (previously presented) The identification tag of claim 27, wherein information transmitted is in analog form.

41. (previously presented) The identification tag of claim 27, wherein information transmitted is in digital form.

42. (previously presented) The identification tag of claim 27,

wherein there is at least one clock generator circuit.

43. (previously presented) The identification tag of claim 27, wherein there is at least one shift register circuit.

44. (previously presented) The identification tag of claim 31, wherein the dipole antenna component for transmitting information is a back scatter type antenna.

45. (previously presented) The identification tag of claim 27, wherein the integrated circuit is built onto material selected from the group consisting of silicone, germanium, GaAs, sapphire, and diamond.

46. (previously presented) The identification tag of claim 27, wherein the integrated circuit contains test and monitoring points and pads.

47. (previously presented) The identification tag of claim 27, wherein the integrated circuit contains test and monitoring control circuitry.

48. (previously presented) The identification tag of claim 27, wherein the integrated circuit contains circuits for logic, sequencing and switching.

49. (previously presented) The identification tag of claim 28, further comprising at least one dipole antenna for receiving radio wave energy.

50. (previously presented) The identification tag of claim 28, further comprising least one dipole antenna for receiving radio energy which is used for receiving radio wave energy.

51. (previously presented) The identification tag of claim 28, wherein there is at least one dipole antenna for transmitting information from the application specific integrated circuit.

52. (previously presented) The identification tag of claim 51, wherein the dipole antenna for transmitting information is powered by at least one charge storage component which stores energy.

53. (previously presented) The identification tag of claim 28, wherein energy can be received from sources selected from the group consisting of microwaves, infrared, visible light and ultraviolet light.

54. (previously presented) The identification tag of claim 28, wherein a write control component contains at least one memory section for storing information.

55. (previously presented) The identification tag of claim 54,

wherein the memory section is a nonvolatile memory.

56. (previously presented) The identification tag of claim 28, wherein at least one multiplexer controls flow of information and data.

57. (previously presented) The identification tag of claim 28, wherein at least one pulse generating circuit is used.

58. (previously presented) The identification tag of claim 28, wherein information received is in³ analog form.

59. (previously presented) The identification tag of claim 28, wherein information received is in digital form.

60. (previously presented) The identification tag of claim 28, wherein information transmitted is in analog form.

61. (previously presented) The identification tag of claim 28, wherein information transmitted is in digital form.

62. (previously presented) The identification tag of claim 28, further comprising at least one clock generator circuit.

63. (previously presented) The identification tag of claim 28, further comprising at least one shift register circuit.

64. (previously presented) The identification tag of claim 51, wherein the dipole antenna for transmitting information is a back scatter type antenna.

65. (previously presented) The identification tag of claim 28, wherein the integrated circuit is built onto different materials selected from the group consisting of silicone, germanium, GaAs, sapphire, or diamond.

66. (previously presented) The identification tag of claim 28, wherein the integrated circuit contains test and monitoring points and pads.

67. (previously presented) The identification tag of claim 28, wherein the integrated circuit contains test and monitoring control circuitry.

68. (previously presented) The identification tag of claim 28, wherein the integrated circuit contains circuits for logic, sequencing and switching.

69. (previously presented) An identification tag according to claim 27, wherein said dipole antenna for receiving radio wave energy is tuned for a frequency between 10 GHz and 16 GHz.

70. (previously presented) An identification tag according to claim 28, wherein said dipole antenna for receiving radio wave energy is tuned for a frequency between 10 GHz and 16 GHz.

71. (previously presented) An identification tag of claim 27 wherein the application specific integrated circuit is a monolithic circuit,

wherein the first dipole antenna receives data and radio energy;

wherein there is a signal receiving system for receiving data containing information from said first dipole antenna;

wherein there is a data storage system on the integrated circuit for storing data received; and

wherein the second dipole antenna transmits information from the integrated circuit storage system to a receiver.

72. (previously presented) An identification tag of claim 28 wherein said application specific integrated circuit is a monolithic device, and

wherein said dipole antenna supplies energy to the integrated circuit and also power to the antenna.

73. (previously presented) The identification tag of claim 27, wherein a data processing system processes the data stored on the integrated circuit to make decisions and take actions.

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74. (previously presented) The identification tag of claim 28,
wherein a data processing system processes the data stored on the
integrated circuit to make decisions and take actions.
